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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,455	01/15/2004	Khiem Le	39700-783001US/NC37129US	5064
64046	7590	06/08/2010		
MINTZ, LEVIN, COHN, FERRIS, GLOVSKY AND POPEO, P.C ONE FINANCIAL CENTER BOSTON, MA 02111			EXAMINER CHEEMA, UMAR	
			ART UNIT 2444	PAPER NUMBER
			MAIL DATE 06/08/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



<b>Office Action Summary</b>	<b>Application No.</b> 10/757,455	<b>Applicant(s)</b> LE, KHIEM	
	<b>Examiner</b> UMAR CHEEMA	<b>Art Unit</b> 2444	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |



**DETAILED ACTION**

***Response to Amendment***

1. This action is response to the amendment filed on 03/08/2010. Claims 1-26 are pending with claims 1, 2, 6, 11, 15, 19, 22, 23, 25, and 26 being further amended.

***Response to Arguments***

2. Applicant arguments with respect to claims 1-26 have been considered but are mood in new ground(s) of rejection.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 25 and 26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
4. Claims 21 and 26 are directed to non-statutory subject matter. Even though claims are directed to a computer program, embodied on a computer-readable medium, however, that does not make it statutory. The broadest reasonable interpretation of a claim drawn to a computer readable medium (also called machine readable medium and other such variations) typically covers forms of non-transitory tangible media and transitory propagating signals per se in view of the ordinary and customary meaning of computer readable media, particularly when the specification is silent (See MPEP 2111.01). Hence, specification are silent about a computer program, embodied on a computer-readable medium, therefore, examiner is interpreting it as carrying a signal. Transitory subject matter are not directed to statutory subject matter, therefore,



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claims as whole are directed to non-statutory subject matter (See *In re Nuijten*, 500 F.3d 1346, 1356-57 (Fed. Cir. 2007)). Applicant is advised to amend claims and specification to include limitation "non-transitory" to overcome a rejection under 35 U.S.C 101.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al (Jonsson) (US Patent # 6,970,476) in view of Banerji et al (Banerji) (US 2003/0012278) and further in view of McBride et al (McBride) (US 6,151,627) and further in view of Dorward et al. (hereinafter Dorward) (US Patent No. 6,236,341).

2. Regarding claims 1, 6, 11, 15, 22, 23, and 24-26, Jonsson discloses the invention as claimed a method, an apparatus, and a computer readable program, comprising: selectively updating a compression history at a compressor (**context updating**), based on a first algorithm



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configured to determine whether a payload of a packet is to be compressed, and based on a second algorithm configured to determine whether the compressed packet is to be used for the updating of the compression history, the compression history used for compression of another payload of a subsequent packet (see **abstract, packet header communications that utilize header compression/decompression, col. 11, lines 10-19; context updating between first and second packet communication station**).

3. Although Jonsson discloses substantial features of applicant's claimed invention, Jonsson fails to disclose: compressed packet is to be used for the updating of the compression history. Nevertheless, compressed packet is to be used to update of the compression history was well known in the art at the time of the present invention.

4. In analogous teaching, Banerji exemplifies this where compressed packet (**compression algorithm for compressing packets**) is to be used for the updating of the compression history (**exploit data history being updated**) (**compression algorithm that can exploit data history from the beginning of each file, see Banerji: ¶¶ [0010-0011]**)

5. Thus, given teaching of Banerji, it would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Banerji and Jonsson for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tends to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji, ¶ [0026]).

6. Although Jonsson-Banerji discloses substantial features of applicant's claimed invention, Jonsson-Banerji fails to disclose: wherein used multiple algorithms (first and second algorithms)



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are being used. Nevertheless, using of multiple algorithms was well known in the art at the time of the present invention.

7. In analogous teaching, McBride exemplifies using multiple algorithms (**first and second algorithm**) (**multiple algorithms are being used to determine transmitting station of compression history etc.**) (see McBride, abstract, col. 2, line 58-col.3, line 26, Fig. 2-3, 5-7 and details associated).

8. Thus, given teaching of McBride, it would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of McBride into Jonsson-Banerji for using multiple algorithms. As well known in the art it would have been advantageously determining or perform multiple functionalities of the system.

9. Although Jonsson discloses substantial features of claimed invention, Jonsson fails to expressly disclose: wherein selectively updating a compression history using for payload compression. Nevertheless, wherein selectively updating a compression history using for payload compression.

10. In analogous teaching, Dorward exemplifies wherein selectively updating a compression history using for payload compression (**see at least, abstract, Figures 2-4 and details associated in specifications; wherein examine successfully receives packets; identifies packet history state as function of acknowledgment vector; encode individual packets as function packet history state; apply compression to encoded packets; and transmit compressed packets; further when system receives packets it extract history vector on a packet-by packet bases and identify history state etc.**).



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11. Thus, given teaching of Dorward, it would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Dorward into Jonsson for payload compression. Motivation for doing so would have been enabling inter-packet compression thereby achieving great robustness and increased compression ratio without the deleterious effects, e.g. packet loss etc. (see Dorward: col. 4, lines 1-3).

12. Regarding claim 2, Jonsson-Banerji discloses the method according to claim 1, wherein the packet and the subsequent packet are transmitted via a transmission control protocol, and wherein claim 1 further comprises: ensuring a history consistency between a compressor and a decompressor by using transmission control protocol, wherein the compressor monitors an acknowledgment signaling of a transmission control protocol receiver (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0010-0011). Motivation for doing so would have been same as previously provided.

13. Regarding claim 3, Jonsson-Banerji discloses the method according to claim 1, further comprising: ensuring a history consistency between a compressor and a decompressor by using a feedback between the compressor and the decompressor (see Jonsson: col. 10, lines 5-9; Banerji: see par. 0010-0011). Motivation for doing so would have been same as previously provided.

14. Regarding claim 4, Jonsson-Banerji disclose the method according to claim 2, further comprising: enabling the compressor to safely infer a subset of a first context at the decompressor by monitoring the transmission control protocol acknowledgment signaling, wherein the subset is used as a second context for compression (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0035). Motivation for doing so would have been same as previously provided.



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15. Regarding claim 5, Jonsson-Banerji disclose the method according to claim 1, further comprising: ensuring a history consistency between a compressor and a decompressor by combining use of transmission control protocol, wherein the compressor monitors an acknowledgment signaling of a transmission control protocol receiver, with use of a feedback between the compressor and the decompressor (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0035). Motivation for doing so would have been same as previously provided.

16. Regarding claim 7, the limitations of this claim has already been addressed (see claim 2 above).

17. Regarding claim 8, the limitations of this claim has already been addressed (see claim 4 above).

18. Regarding claim 9, the limitations of this claim has already been addressed (see claim 3 above).

19. Regarding claim 10, the limitations of this claim has already been addressed (see claim 5 above).

20. Regarding claim 12, Jonsson-Banerji disclose apparatus according to claim 11, further comprising: monitor configured to monitor an acknowledgment signaling of a transmission control protocol receiver, wherein the monitor is operably connected to the processor (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0010-0011). Motivation for doing so would have been same as previously provided.

21. Regarding claim 13, Jonsson-Banerji disclose the apparatus according to claim 12, wherein said monitor is configured to be enabled to safely infer a subset of a first context at a



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decompressor by monitoring transmission control protocol acknowledgment signaling, wherein the subset is used as a second context for compression (see Jonsson: col. 2, lines 35-40, col. 7, lines 20-25, figure 2; Banerji: see par. 0010-0011). Motivation for doing so would have been same as previously provided.

22. Regarding claim 14, Jonsson-Banerji disclose the apparatus according to claim 11, further comprising: establisher configured to establish a feedback between the compression device and a decompression device, wherein the establisher is operably connected to the processor (see Jonsson: col. 10, lines 5-9, col. 7, lines 20-25; Banerji: see par. 0010-0011).

Motivation for doing so would have been same as previously provided.

23. Regarding claim 16, the limitations of this claim has already been addressed (see claim 12 above).

24. Regarding claim 17, the limitations of this claim has already been addressed (see claim 13 above).

25. Regarding claim 18, the limitations of this claim has already been addressed (see claim 14 above).

26. Regarding claim 19, Jonsson discloses the invention as claimed an apparatus, comprising: a receiver configured to receive signals from a compression device indicating which packets are to be included in a compression history, the compression history including one or more packets selected based on a first algorithm configured to determine whether at least one of the payloads of the packets are to be compressed and based on a second algorithm configured to determine whether the compressed packets are included in the compression history (see col. 6, lines 58-65, figure 6; receiving context updating request); and a processor configured to process a packet



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sequence number for updating a buffer in synchronization with the compression device, wherein the processor is operably connected to the receiver (see col. 2, lines 35-40, col. 7, lines 20-25, figure 2).

27. Although Jonsson discloses substantial features of applicant's claimed invention, Jonsson fails to disclose: compressed packet is to be used for the updating of the compression history. Nevertheless, compressed packet is to be used to update of the compression history was well known in the art at the time of the present invention.

28. In analogous teaching, Banerji exemplifies this where compressed packet (**compression algorithm for compressing packets**) is to be used for the updating of the compression history (**exploit data history being updated**) (**compression algorithm that can exploit data history from the beginning of each file, see Banerji: ¶¶ [0010-0011]**)

29. Thus, given teaching of Banerji, it would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Banerji and Jonsson for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tends to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji, ¶ [0026]).

30. Although Jonsson-Banerji discloses substantial features of applicant's claimed invention, Jonsson-Banerji fails to disclose: wherein used multiple algorithms (first and second algorithms) are being used. Nevertheless, using of multiple algorithms was well known in the art at the time of the present invention.



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31. In analogous teaching, McBride exemplifies using multiple algorithms (**first and second algorithm) (multiple algorithms are being used to determine transmitting station of compression history etc.)**)(see McBride, abstract, col. 2, line 58-col.3, line 26, Fig. 2-3, 5-7 and details associated).

32. Thus, given teaching of McBride, it would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of McBride into Jonsson-Banerji for using multiple algorithms. As well known in the art it would have been advantageously determining or perform multiple functionalities of the system.

33. Although Jonsson discloses substantial features of claimed invention, Jonsson fails to expressly disclose: wherein selectively updating a compression history using for payload compression. Nevertheless, wherein selectively updating a compression history using for payload compression.

34. In analogous teaching, Dorward exemplifies wherein selectively updating a compression history using for payload compression (**see at least, abstract, Figures 2-4 and details associated in specifications; wherein examine successfully receives packets; identifies packet history state as function of acknowledgment vector; encode individual packets as function packet history state; apply compression to encoded packets; and transmit compressed packets; further when system receives packets it extract history vector on a packet-by packet bases and identify history state etc.**).

35. Thus, given teaching of Dorward, it would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Dorward into Jonsson for payload compression. Motivation for doing so would have been enabling inter-



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packet compression thereby achieving great robustness and increased compression ratio without the deleterious effects, e.g. packet loss etc. (see Dorward: col. 4, lines 1-3).

36. Regarding claim 20, Jonsson-Banerji disclose the apparatus according to claim 19, further comprising: forwarding unit configured to forward an acknowledgment signaling of a transmission control protocol receiver to the compression device, wherein the forwarding unit is operably connected to the receiver (see Jonsson: figure 6, col. 6, lines 53-60, col. 2, lines 35-40; Banerji: see par. 0010-0011). Motivation for doing so would have been same as previously provided.

37. Regarding claim 21, Jonsson-Banerji disclose the apparatus according to claim 19, further comprising: an establishing unit configured to establish a feedback between the compression device and the decompression device, wherein the establishing means is operably connected to the receiver (see Jonsson: col. 10, lines 5-9, col. 7, lines 20-25; Banerji: see par. 0010-0011). Motivation for doing so would have been same as previously provided.

### ***Conclusion***

38. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37



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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to UMAR CHEEMA whose telephone number is (571)270-3037. The examiner can normally be reached on M-F 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Jr. Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/U. C./

Examiner, Art Unit 2444

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2444